Info-Hams Digest   Mon, 23 Aug 93   Volume 93 : Issue 1006

Today's Topics:
                          'Diversity Operation'?
                          5A0RR Report (2 msgs)
                                  ATV
                            Bug Catchers
                             How Long?
                          HP transformer
                           ICOM repair
                       info@arrl.org bounces
                JOTA: Anyone know when it is? (2 msgs)
                 Packet radio addresses and internet
                  Roanaoke DF evalutation? (2 msgs)
                        SWR Meters (2 msgs)
                    ticket- less than 11 weeks...
                       WANTED: Sure Microphone

In article <24tahfINN5g3@golem.wcc.govt.nz>, gardner_a@kosmos.wcc.govt.nz
(andy gardner) wrote:
>

> There are (to my knowledge), 4 different methods of diversity reception,
[...]
> 1. Frequency diversity
>
> 2. Space diversity
>
>
> 3. Polarization diversity
>
>
> 4. Time diversity

[descriptions deleted]

Add, angle diversity, which is used on microwave troposcatter links. Two
directional antennas are aimed at slightly different regions of the sky.
Principle can be applied to any technique where there is a distributed
scattering source being used.

-- Bill wtr@mitre.org
* I babble too incoherently to speak for my employer *

Date: 23 Aug 1993 19:14:27 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!gatech!concert!
inxs.concert.net!rock.concert.net!mikewood@network.ucsd.edu
Subject: 5A0RR Report
To: info-hams@ucsd.edu

Below is the full content of the message from Romeo, 5A0RR from
the BARF-80 BBS.

Date: Wed Aug 18 18:16:50 1993
From: reisert@wrksys.enet.dec.com (Jim Reisert AD1C 18-Aug-1993 1820)
Subject: 5A0RR "Trip Report" from Romeo (via W1GG, WB2DHY, NT2X)
To: dx@wrksys.enet.dec.com

Msg #567 From: W1GG Date: 18-Aug 1648Z Subj: 5A & More de Romeo!

Copy of message. From: WB2DHY   To: W1GG   Date: 18-Aug-1993 1648Z

The following was received by Ed, NT2X, who did the
Russian/English translation.

LIBYAN DXPEDITION

Originally, plans called for the use of six amateur radio
operators for 5A. Due to the lack of funding we had to limit
ourselves to three operators: Said, who currently holds the
call sign 5A0RR, Danny, LZ2UU and myself.

During the operation, which lasted five days, we worked over
11,000 stations.

    This DXpedition coincided with the International Arab Summit
being held in Cairo. With mounting pressure from the world-wide
ham community, we were focused on commencement of the operation
and gave very little consideration to the Arab Summit.
National security throughout the region was at a fever pitch.
The Dxpedition was terminated when Danny and I were accused by
Libyan counter-intelligence and Egyptian police of planning to
assassinate both President Mubarek and Libyan Leader Quaddafy.
To make matters worse and even more bizarre, they said we were
using ham radio as a cover for illegal drug trafficking by
communicating with Turkish ships in the ports of Benghazi and
Alexendria, Of course, these charges were absurd and insanely
ridiculous. We were both arrested and placed in the Libyan
prison system. We spent many weeks in prison and were held
incommunicado. Our constant requests to speak with consular
officials from Russia and Bulgaria were met with insults and
abuse. This unpleasant experience, the details of which I will
not go into at this time, has caused my health to deteriorate
greatly and I am currently under doctor's care and receiving
medical treatment. Fortunately, events unfolded resulting in
our release, which was nothing short of miraculous. Perhaps,
in time, this story will be told.

Said, 5A0RR, will continue to operate from Libya under this
call sign which is in effect for two years. We left him an
FT-990, a FL-7000 amp and a Mosley antenna. He is an
outstanding CW operator but might be limited in his SSB
operating since we didn't have the opportunity to train him
in this mode.

Copies of the 5A0RR logs are in Bulgaria. QSL's are being
sent.

If my medical condition permits, I hope to travel to the
United States soon. At that time I will present the
documentation for the 5A-Libyan operation to the
American Radio Relay League. I also have in my possession the
additional documentation requested by the ARRL for the
P5-North Korean DXpedition.

The unwarranted and undeserved criticisms, along with false
charges, leveled in my direction from the amateur radio
community (some of which were anonymous), have disturbed me
a great deal. I was disappointed to see how few hams
supported me or rallied to my defense. Truly, it is this
experience above all else which gives me great cause to
consider discontinuing my efforts to put the very rarest
countries on the air.

To those of you world-wide who throughout the years have
always shown your friendship, support and encouragement,
THANK YOU VERY MUCH! I will always cherish our relationship
as well as all the great moments and memories.

Warmest regards.

73,

Romeo, 3W3RR/AH0M/RV7RR/EK0RR/XY0RR/IS0RR/9D0RR/YA0RR/5A0RR
and forty-five other call signs.

****
a

Mike Wood   Internet: mikewood@rock.concert.net
The Signal Group
P.O. Box 1979   ***Avoid company disclaimers by owning the company ***
Wake Forest, NC 27588

Phone: 919-556-8477   Fax: 919-556-0115

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Date: Mon, 23 Aug 1993 22:56:28 GMT
From: haven.umd.edu!darwin.sura.net!gatekeeper.es.dupont.com!esds01.es.dupont.com!
COLLINST%esvx19.es.dupont.com@ames.arpa
Subject: 5A0RR Report
To: info-hams@ucsd.edu

In article <25b4uj$ir3@inxs.concert.net>, mikewood@rock.concert.net (W. M Wood --
The Signal Group) writes:
>
>Below is the full content of the message from Romeo, 5A0RR from
>the BARF-80 BBS.
>Alexendria, Of course, these charges were absurd and insanely
>ridiculous. We were both arrested and placed in the Libyan
>prison system. We spent many weeks in prison and were held
>incommunicado. Our constant requests to speak with consular

    Guess this is the last time Romeo calls "QRZ 5A0RR
    listening 200 to 300."

(I know I'm going to be flamed for the above, so be it. I
 couldn't resist..... :-))

73, Tom WI3P collinst@esvax.dnet.dupont.com or collinst@holonet.net
***** The comments, opinions, belief, sentiment, views & scribblings ****
***** above this signature are mine, and mine alone. They do not   ****
***** reflect the E.I. DuPont de Nemours Co., Inc., its subsidiaries ****
***** and/or its partners nor its employees or shareholders.   ****

Date: 23 Aug 93 21:23:29 GMT
From: ukma!ovation!usenet@RUTGERS.EDU
Subject: ATV
To: info-hams@ucsd.edu

I would like to know if anyone in the Hopatcong, NJ area
(north central Jersey) is doing ATV. Please email response
Thanks, Dave   Technician waiting for FCC call sign!

Date: 23 Aug 1993 19:55:22 GMT
From: spool.mu.edu!howland.reston.ans.net!usenet.ins.cwru.edu!news.ysu.edu!

yfn.ysu.edu!ag821@decwrl.dec.com
Subject: Bug Catchers
To: info-hams@ucsd.edu

Does anyone have:

        1. experience with
        2. address for
        3. Costs of

different brands of Bug Catcher HF mobile antnnas

thanks

73

JEff, AC4HF
--
Jeff M. Gold, AC4HF
Manager, Academic Computing Support
Tennessee Technological University

Date: 23 Aug 1993 20:13:11 GMT
From: usc!howland.reston.ans.net!darwin.sura.net!news-feed-1.peachnet.edu!concert!
lester.appstate.edu!usenet@network.ucsd.edu
Subject: How Long?
To: info-hams@ucsd.edu

Does anyone know how long it is currently taking to get tickets back from
the FCC? I took my Tech no code on July 17th and they told me 6-8 weeks.
I've since heard as long as 12. Can someone tell me how long before I should
start looking for it please?

Date: 23 Aug 93 17:04:19 GMT
From: news-mail-gateway@ucsd.edu
Subject: HP transformer
To: info-hams@ucsd.edu

I have an HP AC-60B "Bridging" transformer. Does anyone out there have
the original specifications on this audio beast ? I'm mainly interested
in the longitudinal balance, return loss & and frenuency range spec.s for
the record.

These units are quite old and no longer in the HP catalogs, but there are

still some of us out here who use this analog stuff.

Seth T. KC2WE

Date: Mon, 23 Aug 1993 22:25:41 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!gatech!emory!
wa4mei!ke4zv!gary@network.ucsd.edu
Subject: ICOM repair
To: info-hams@ucsd.edu

In article <2096@arrl.org> bbattles@arrl.org (Brian Battles WS1O) writes:
>In rec.radio.amateur.misc, bbattles@arrl.org (Brian Battles WS1O) writes:
>>In rec.radio.amateur.misc, jeffries@iastate.edu (Anthony G Jeffries) writes:
>   <drivel deleted>
>> ICOM runs a major repair facility in Alabama, and its US HQ offices are in
>>Bellevue, Washington.   ^^^^^^^
>
> Oops, I meant Atlanta, not Alabama (we Yankees easily confuse
>southern places that start with "A"). But now I hear that they've
>moved their repair facility to their HQ in Bellevue. Hmmm...?

Yeah, and it's a crying shame too. Their Atlanta depot was staffed
by some of the finest folks you'd ever want to deal with. It was
also nice to be able to just "drop in" when you had a problem. :-)

Gary

--
Gary Coffman KE4ZV |"If 10% is good enough | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | for Jesus, it's good | uunet!rsiatl!ke4zv!gary
534 Shannon Way | enough for Uncle Sam."| emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | -Ray Stevens |

Date: 23 Aug 93 16:44:59 GMT
From: ogicse!emory!dragon!nj8j!ben@network.ucsd.edu
Subject: info@arrl.org bounces
To: info-hams@ucsd.edu

Sorry about posting this this way, but (as you will see below) I'm not sure
I can email this and get it through. Besides, I'm sure others have had the
same problem - if necessary, maybe we can compare notes a bit and find a
solution to this.

I got this on a recent request to info@arrl.org:

From: MAILER-DAEMON@uu.psi.com
Date: Fri, 20 Aug 93 17:25:54 -0400
Subject: Returned mail: Unable to deliver mail
Message-ID: <9308202125.AB18110@uu.psi.com>
To: ben@nj8j.atl.ga.us

   ----- Transcript of session follows -----
554 arrlhq!info... arrlhq is an unknown UUCP host

Obviously, I've edited out Received: headers and the contents of my
submission. Based on what appears above, I can take a stab at what the
problem is. I'm guessing that:

1. arrlhq is an old and abandoned UUCP name for arrl.org
2. some site between mine and uu.psi.com, using an old UUCP map, is
translating info@arrl.org to .....!arrlhq!info.
3. uu.psi.com doesn't know that arrlhq is an alias for arrl.org.

This could, of course, be fixed at 3 by getting uu.psi.com to recognize
arrlhq as a valid alias for arrl.org. I'll let others with more experience
with PSI say whether or not this is feasible. If not, perhaps those of us
who have gottened bounced info@arrl.org mail can compare notes and see if we
can pin down the site that's using the old maps?

Ben

+--+---------------------------------+
Ben Coleman NJ8J	"All that is not eternal is
AX.25: NJ8J@W4QO.#EAL.#ATL.GA.USA.NA	eternally irrelevant."
Internet: ben@nj8j.atl.ga.us	C. S. Lewis
+--+---------------------------------+

Date: 23 Aug 1993 21:06:41 GMT
From: saimiri.primate.wisc.edu!sdd.hp.com!vixen.cso.uiuc.edu!ux1.cso.uiuc.edu!
miltf@ames.arpa
Subject: JOTA: Anyone know when it is?
To: info-hams@ucsd.edu

Gary_Thorburn_at_Notes-Gate@sceng.UB.COM writes:

> Can anyone tell me when JOTA, the Jamboree-on-the-Air is this fall?
> This is the annual event

```
>  that gets Boy/Cub Scouts talking to each other via Ham Radio, and
>  provides great exposure
>  for the hobby.  I'd like to get my son's Patrol involved.

>  73,  Gary   KB1AIF     thorburn@sceng.ub.com


The Jamboree On The Air is always the 3rd weekend in October.  This year,
that puts it October 16-17.  It starts officially at 0000Z on Oct 16 and ends
the same time October 18.

                              Milt, K9QZI, BSA Troop 7 - Champaign, IL

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Date: 23 Aug 1993 15:52:04 GMT
From: waikato!comp.vuw.ac.nz!newshost.wcc.govt.nz!
WALKER_CM%kosmos.wcc.govt.nz@decwrl.dec.com
Subject: JOTA: Anyone know when it is?
To: info-hams@ucsd.edu

In article <9307237461.AA746116717@sceng.UB.com>, Gary_Thorburn_at_Notes-
Gate@sceng.UB.COM writes:
>
>
>  Can anyone tell me when JOTA, the Jamboree-on-the-Air is this fall?
>  This is the annual event
>  that gets Boy/Cub Scouts talking to each other via Ham Radio, and
>  provides great exposure
>  for the hobby.  I'd like to get my son's Patrol involved.
>
>  73,  Gary   KB1AIF     thorburn@sceng.ub.com

JOTA this year is October 16 - 17. With the date/time difference it
usually means we don't have many/any Stateside contacts on the first day!
This year we'll be under canvas at Tatum Park, a permanent scout camp and
conference centre, about 60 miles north of Wellington on the west coast.
Listen for ZL2ALY on whatever band propogation allows!! I'm with the
Paparangi and Newlands scout groups. As well as HF & VHF we'll have
packet - the address:- ZL2ALY@ZL2WA #63.WLG.NZL.OC
Have fun!  73.  Cliff.  ZL2ALY

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Date: 23 Aug 1993 22:57:34 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!
darwin.sura.net!haven.umd.edu!cville-srv.wam.umd.edu!barspi@network.ucsd.edu
Subject: Packet radio addresses and internet
```

To: info-hams@ucsd.edu

   During my vacations in my home country, Uruguay, last month, a friend of
mine introduced me to amateur packet radio. I didn't know anything about radio
and still am quite confused in some aspects. He has an address like this:
  CX8BU@CX2ACB.MVD.URY.SA
This address looks like an internet address, so my question is if I can send
hime e-mail to that address and if there is a gateway between the two nets.
I know that there are gateways between internet and fidonet and between fidonet
and packet radio.
Also, I would like to know where I can find more info on this subject. Today
I got a FAQ for rec.radio.amateur.digital.misc and it directed me to this group

Thank you for any info.

```
+--------------------------------+
|       Barzilai Spinak          |
|   .....         barspi@wam.umd.edu |
|   (-O-O-)      barspi@eng.umd.edu |
+nnn--U--nnn---------------------+
```

Date: 23 Aug 93 21:44:07 GMT
From: ncrgw2.ncr.com!ncrhub2!ncrlnk!ncrwic!donald!kthompso@uunet.uu.net
Subject: Roanaoke DF evalutation?
To: info-hams@ucsd.edu

The "dopplers" (they really work on instantanious phase changes) only do
well with strong, vertical signals. A 4-element quad is much better overall.

--
Ken Thompson   N0ITL
Disk Array Hardware Development
Peripheral Products MPD-Wichita
NCR Corp. an AT&T company
3718 N. Rock Road Wichita,Ks 67226
(316) 636-8783
Ken.Thompson@wichitaks.ncr.com

Date: Tue, 24 Aug 1993 02:27:50 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!spool.mu.edu!howland.reston.ans.net!
gatech!kd4nc!ke4zv!gary@network.ucsd.edu
Subject: Roanaoke DF evalutation?
To: info-hams@ucsd.edu

In article <106155@donald.WichitaKS.NCR.COM> kthompso@donald.WichitaKS.NCR.COM
(ken thompson) writes:
>The "dopplers" (they really work on instantanious phase changes) only do
>well with strong, vertical signals. A 4-element quad is much better overall.

Well it's true that the doppler, actually it's a time difference of
arrival circuit, will work on a strong signal while a beam will often
not give a good null. However, polarization of the transmit antenna
isn't an issue unless the cross polarization loss is so great that
the signal can't be heard. Beams are only really useful if the signal
is weak enough into the receiver to get a relative strength indication.
A step attenuator can help here. The doppler doesn't care if the signal
is weak or strong, it merely measures the difference in time of arrival
of the wavefront from one antenna to the other. Both methods can be
fooled by strong multipath, but the doppler display lets you *know*
you're in a multipath situation while the beam does not. Doppler systems
are great because they work well while you are mobile in motion, giving
you a continous readout of the relative bearing of the fox.

Gary
--
Gary Coffman KE4ZV |"If 10% is good enough | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | for Jesus, it's good | uunet!rsiatl!ke4zv!gary
534 Shannon Way | enough for Uncle Sam."| emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | -Ray Stevens |

        I have a SWR meter that was designed to be used for HF frequencies.
Is it possible to modify it to work on 2 meters?

        It is a older version of the current Radio Shack SWR/FS meter
model number: 21-523. Now I realize that many people make cheep meters
(i.e. Radio Shack and MFJ inc.), but I need a project to bide me over
while waiting for my Code-Freed Tech. ticket to arrive
(9.5 weeks and counting!). It is also more in keeping with our hobby
to self-educate and to have "made it myself".

        If someone would like to wax-eloquently on what exactly a SWR meter
is really measuring in term that this Electrical Engineer can understand,

I sure would appreciate it.

73's all
and be seeing you on the RF soon,
I hope!
Chuck Kamas
ee2g+Charles@andrew.cmu.edu

Date: Tue, 24 Aug 1993 02:12:40 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!gatech!kd4nc!
ke4zv!gary@network.ucsd.edu
Subject: SWR Meters
To: info-hams@ucsd.edu

In article <ogSHvNm00jWR4KNnRP@andrew.cmu.edu> ee2g+Charles@andrew.cmu.edu writes:
>   I have a SWR meter that was designed to be used for HF frequencies.
>Is it possible to modify it to work on 2 meters?

Yes, but all that's left of the original when you're done is the case
and meter movement. As I recall it's a form of the Monimatch circuit.
Basically that's a short transmission line segment that has an additional
wire inside the shield for a short distance. That wire is terminated
at one end by a resistor of the line's characteristic impedance, and
by a diode and a meter on the other end. There's usually a switch
so you can swap the line ends to measure forward and reflected signal
components, and a variable resistor to set the sensitivity of the
unit. This circuit can be used at VHF if the construction symmetry
is good enough, and if strays are controlled well enough. Unfortunately,
this style of instrument is frequency sensitive, and the pickup wire
offers too much coupling at VHF in order to get a reading at HF. And
this particular meter doesn't maintain symmetry, or control strays
very well. So you need to build a new line section to get reliable
readings at VHF.

>   It is a older version of the current Radio Shack SWR/FS meter
>model number: 21-523. Now I realize that many people make cheep meters
>(i.e. Radio Shack and MFJ inc.), but I need a project to bide me over
>while waiting for my Code-Freed Tech. ticket to arrive
>(9.5 weeks and counting!). It is also more in keeping with our hobby
>to self-educate and to have "made it myself".
>
>   If someone would like to wax-eloquently on what exactly a SWR meter
>is really measuring in term that this Electrical Engineer can understand,
>I sure would appreciate it.

Well what we usually actually measure is the line VSWR, the Voltage
Standing Wave Ratio, though we could equally measure the Current Standing
Wave Ratio, and we do in different kinds of bridge circuits. First a
few basics.

A transmission line has a characteristic impedance. That's the impedance
a generator would see if it impressed a pulse on an infinitely long line
segment. This impedance exists because of the distributed inductance and
capacitance of the line. Since that's purely reactive, no power is dissipated
in the line, but since the line is infinitely long, it appears to the
generator that the power has been dissipated in the "load" presented by
the line. If we replace the infinite line segment with a finite length
line and terminate it in a resistor of the line's characteristic impedance,
from the generator's point of view nothing will have changed. That's called
a perfectly matched line. As far as the generator is concerned, it's looking
directly into a resistor of the line's characteristic impedance. If you
take a voltage reading anywhere along the line, you'll get a value that's
related to the generator's power by the relation E=sqrt(P*R) where E is
the voltage, P is generator power, and R is the line characteristic
impedance. Similarly, if you measured the current anywhere along the
line, I=sqrt(P/R), and the current and voltage waveforms will be *in
phase*. Remember we're dealing with AC here, and AC across a resistor
will be in phase, and to the generator the line looks like a resistor.

Now suppose the line is *not* terminated in a resistor of the line's
characteristic impedance. Let's first look at two extreme cases. If
the line is *open*, then current will be zero and voltage will be
maximum, a very high impedance point. Note that the voltage and
current are now out of phase by 90 degrees. When the voltage collapses,
it will induce a current in the wire that will travel in the opposite
direction from the incoming wave, or forward wave, back toward the
generator. Since it's moving along a line with a characteristic impedance,
it will in turn generate a voltage on the line, also travelling toward the
generator. Voltage and current waves will once again be in phase, but
travelling in a different direction. This is called the reflected wave.
If the line is shorted instead of open, then voltage goes to zero, and
current becomes maximum, a very low impedance. The same things happen
to the waves as in the open case except that the signs of the phases
are reversed. Now if we take the case where the line is terminated
in a finite impedance, but different from the line's characteristic
impedance, we'll get part of the incident wave absorbed in the load,
and part reflected by the mismatch.

Ok, now what do we see if we measure the voltage along the line?
Since we now have two waves, forward and reflected, moving along
the same line, and that line has a characteristic impedance, we'll
measure a voltage at any given point on the line that's the vector
sum of the two waves at that point. Since the two waves differ in

phase by the distance they've travelled along the line, we won't
see a constant voltage. Instead we will see a sinewave variation
of the voltage as we move along the line. Since the line is of
fixed length, the travel time differences between the waves will
be in a fixed relationship and this sinewave will appear to
stand still on the line. Hence Standing Wave. The relationship
between the forward and reflected voltages can be expressed as
a ratio in the following form, VSWR=(Vf+Vr)/(Vf-Vr). Note that
for a perfectly matched line Vr=0 and VSWR becomes simply Vf/Vf
or 1. So an SWR of 1:1 means a perfect match.

Now this would all be pretty academic if we couldn't separate
Vf and Vr so we could measure them. Various bridge type circuits
can be used to separate the two wave components by taking advantage
of non-reciprocal properties of the bridge circuit. We can also
take advantage of the properties of travelling waves in the monimatch
to do the same thing. It's difficult to show how to build a VSWR
meter without drawings, so I'll refer you to the instrument on
page 27-11 of The ARRL Antenna Book for a line section that will
work at VHF/UHF and that can be made out of ordinary copper plumbing
fixtures.

Gary
--
Gary Coffman KE4ZV |"If 10% is good enough | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | for Jesus, it's good | uunet!rsiatl!ke4zv!gary
534 Shannon Way | enough for Uncle Sam."| emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | -Ray Stevens |

Date: 23 Aug 93 21:06:55 GMT
From: news.service.uci.edu!mstrong@network.ucsd.edu
Subject: ticket- less than 11 weeks...
To: info-hams@ucsd.edu

ok finally!!!! I can't say any good words about the FCC! I hope some
bureau automaton is reading this too... the FCC sucks...

I took the test June 6 and got the ticket in the mail today Aug 23-- 11
weeks.

just hang in there anyone who is still waiting.....

cheers,

mike strong KD6ZWI :-)

I need one or two Sure SM-10A microphones (specialized headset boom
microphones). I am assuming that I will have to buy them new, but
would be delighted if offered used. If anyone knows a stocking and
discounting boston area sure dealer (typically vendors of sound
reenforcement gear), or good mail order source, I would apreciate a
peice of email.

thanx in advance

<dp>

End of Info-Hams Digest V93 #1006
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